

# Extent of ICT Facilities Utilization and Proficiency in the Colleges of Education in Ghana

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**Abstract** This study was conducted with the Descriptive Survey design, to critically examine the extent of ICT facilities utilization and proficiency in the Colleges of Education in Ghana. The target population comprised of students (all departments) and staff (tutors and administrators) of the Colleges of Education selected through Purposive sampling. Total number of students and staff from the four Colleges of Education was 7626 and 246 respectively. The Taro Yamane formula was used to calculate the sample size of the study which gave 153 staff and 380 students. Simple random sampling technique was used to select respondents. The fundamental instruments for information collection for the study was questionnaires, observational guide and interview guide. The information gathered were analysed utilizing the Statistical Package of the Social Sciences (SPSS). Descriptive statistics, Tables, Percentages, Frequencies, means, Standard Deviations, and t-values were depended on to do the analysis. This study established that ICT proficiency among students and staff in Colleges of Education in Ghana is skewed; while proficiency in word processing and email use is high, proficiencies in the use of other ICT tools such as SPSS, Desktop Publishing, PowerPoint usage and search engines are low. This has been attributed to curriculum design and teaching methodology. The study also predicts that dissertations from these students may be poor due to the skewed proficiency in ICT. Without an effective policy intervention aimed at rectifying this skewedness Students and staff in Colleges of Education may not have adequate functional skills to work in the increasing sophisticated and ICT dominated environment. Based on our findings in this study, we may also postulate that a curriculum designed to develop enough ICT skills in staff and students while encouraging ICT use, together with changes in teaching methodology may help stem this skewedness.

**Keywords:** colleges of education, utilization, proficiency, curriculum design, teaching methodology

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## 1. Introduction

The speed at which ICT utilization is going into the world is such that only nations and countries that are committed to ICT will compete in the present day global market. The 21th century learners have been describe as the next generation learner who is a digital native [1]. This is because the 21st century learner is deemed to have formal access to computer enabled technologies. These learners play video games, watch television, send text messages and e-mails and pay little or no attention to reading their text books. Oblinger [2] in a research findings confirmed the assertion and noted that digital natives, by the age of 21 years will have spent 10,000 hours playing video games, sent 200,000 emails, used 20,000 hours in watching television, spent 10,000 hours on cell phone but less than 5000 hours in reading. This to a great extent will affect their performances in schools unless their new interest

were adequately channelled and integrated in their academics.

In this modern era of educational research, one must have knowledge of the use of computer in teaching and learning. Nwana [3] pointed out that computer literacy involves operating a computer on daily basis to solve problems or perform tasks, browsing the internet and using e-mail, reading computer pamphlets, textbook, etc.

This in no doubt has been accepted as indispensable in the contemporary world and has given a significant impact on the quality of education in the world.

There is therefore the need to access the utilization of ICT materials and proficiency of students and staff in selected Colleges of Education in Ghana.

## 2. Aim and Objectives

The aim of the study is to examine the extent of ICT facilities utilization and proficiency in the Colleges of Education in Ghana.

- i. Determine the extent of ICT facilities utilization by students in the selected Colleges of Education in Ghana
- ii. Determine the extent of ICT facilities utilization by staff in the selected Colleges of Education in Ghana.
- iii. Assess student proficiency in the use of ICT facilities in the selected Colleges of Education in Ghana.
- iv. Assess staff proficiency with the use of ICT facilities in the selected Colleges of Education in Ghana

### 3. Research Questions

- i. To what extent do students use ICT facilities in the selected Colleges of Education?
- ii. To what extent do staff use ICT facilities in the selected Colleges of Education?
- iii. How proficient are students in the use of ICT facilities in the Colleges of Education?
- iv. How proficient are staff in the use of ICT facilities in the Colleges of Education?

### 4. Literature Review

Teaching is becoming one of the most challenging professions in our society where knowledge is expanding quickly and a lot of it is available to students and in addition teachers at the same time. Modern developments of innovative technologies have provided new possibilities for teaching professions and yet have placed more demands on teachers and students to use these new technologies in the teaching and learning process [4].

Attributable to the above, there is widespread change over the world to infuse ICT into education. Recent research by British Education Communication and Technology Agency (BECTA) has highlighted user-capacity of ICT resources as one of the five key mainstays of successful integration of ICT in schools [5]. In developed countries, teachers are completely utilizing ICT in all aspects of their professional life to enhancing their own learning and the learning of their students [6]. They use ICT to help students to assess their own learning in completing specific personal projects. It is normal for teachers to collaborate with other colleagues in sharing experiences to solve problems. ICT becomes a boost for exciting new teaching and learning opportunities [7].

It is the expertise and attitude of the students and teachers that determine the effectiveness of technology integration into the educational programs [5]. Once teachers and students developed abilities, they could begin to discover approaches to integrate technology into the teaching and learning process and demonstrate its use to others. In the event that learning was the impetus that drove the use of technology in the school, teachers and students could be partners in the learning process, altering customary ideal models of the teacher giving insight and the student retaining knowledge. Inspiration to endure the disappointment and disturbance of the process of change needed to be natural.

Aziengbe, [5] noted that ICT whenever used positively enhances learning processes and outcomes. Discoveries assert that both the learning environment and educational programs pedagogy and content are central to the effective use of ICT. However, teachers and students need to be confident in their subject knowledge and in addition in essential ICT literacies with the goal that they can effectively integrate ICT into teaching and learning programs. A large number of studies have discovered that students are often more engaged and motivated to learn when utilizing relevant ICT to help specific intentional learning.

What students generally do while in transit to becoming computer literate is the manner by which to memorize the components of ICT and their capacities. It is a mistake to believe that on the off chance that students can memorize the hardware parts and software, they will understand and be able to use them. Learners do not acquire a repertoire of learning strategies for successfully achieving different sorts of learning errands. Time after time, they apply a memorization strategy and when that neglects to work they need alternative strategies to employ. This is especially problematic with ICT, for which memorization strategies essentially don't work [8]. The researcher believes that the most pandemic, yet most deceptive, cause for underachievement in ICT is lower expectations with respect to lecturers, which reduces expectations of students and the entire educational system.

As per [9], there is a persistent discrepancy between the questions asked of evaluation studies in new technology, and the conclusion they come to. In a research into ICT and learning, [9] has repeatedly demonstrated that the context of the use of ICT determines any effects that ICT may have on learning, and that it is extremely hard to separate the uses that new technologies are put to frame the context of their use. This is supported by [5], who suggested that it is not the sole effect of ICT on learning picks up which ought to be studied, yet the blend of ICT use with specific pedagogical practices in enhancing much-improved students learning, a point which has been echoed elsewhere in [5]. Students learn more rapidly, demonstrates greater retention, and are better motivated to learn when they more often use computers [5]. Aziengbe continued that since technology use is completely integrated into the larger learning system, it is very hard to isolate the technology variable and determine whether any observed increases are due to technology use or to some other factor or a mix of elements. While these studies identify the user-capacity outcome and benefits, the relationship between the type of technology (ICT) and user abilities and state of ICT resources in fostering learning was not completely explored.

### 5. Methodology

The study was a descriptive survey. The target population consisted of students (all departments) and staff (tutors and administrators) of the Colleges of Education selected (Presbyterian College of Education, Wesley College of Education, Accra College of Education, and St. Francis College of Education). The fundamental

instruments for information collection for the study were questionnaires and observational and interview guide. The information gathered were analysed utilizing the Statistical Package of the Social Sciences (SPSS). In particular, descriptive statistics, Tables, Percentages, Frequencies, means, Standard Deviations, and T values were depended on to do the analysis. Total number of students and staff from the four Colleges of Education were 7626 and 246 respectively. The Taro Yamane formula was used to calculate the sample size of the study which gave 153 staff and 380 students.

## 6. Data analysis and Presentation

The study sought to identify the extent of utilization of ICT facilities by students and staff in the Colleges of Education in studied. It looks at ownership of a computer, and first use of a computer for research or academic purpose.

From Table 2, majority (432) of the aggregate respondents representing 82.3 % owned a computer, and 93 of the aggregate respondents representing 17.7 % did not possess a computer. Specifically, most 306 (81.5%) of the students owned a computer, and 69 (18.5%) of the

students did not possess a computer. The dominant part (138) of the staff representing 92 % owned a computer, 12 (8 %) of the staff did not possess a computer.

The study additionally delved into where (Stage/level of education) the respondents had their first pinch of the computer. Table 3 summarized their responses.

From Table 3 most 237 (63.1 %) of the students had their first computer contact at the senior secondary school level, 98 (26.2 %) of the students had their first experience with ICT at the basic level, and 40 (10.8%) of the students had their first bit of the computer at the tertiary level.

Greater part (68) of the staff representing 45.3 % had their first open door amid their undergraduate, 64 (42.7%) of the staff had their first dash of computer at the graduate level, and 18 (12 %) of the staff had their first pinch of computer through new and experienced staff.

To further identify the extent of using ICT facilities provided in the different colleges studied a descriptive analysis was used to measure the factual outcome of these variables in Table 4 and Table 5 utilizing mean and standard deviation. A scale extending for 1-4 (1. None 2. Seldom 3. Often and 4. Very Often) with the highest mean (2.5-4) representing often used office and the lowest mean (1.5-2.4) seldom used ICT facility and an item with a mean less than 1.5 was deemed not to be used.

Table 1

Colleges	Staff Population	Male	Female	Student Population	Male	Female
Presbyterian College of Education	71	48	23	2136	1341	795
Wesley College of Education	58	39	19	1940	1293	647
Accra College of Education	62	44	18	1860	1127	733
St. Francis College of Education	55	41	14	1690	1097	593
Total	246	172	74	7626	4858	2768

Table 2. Ownership of a computer

Personal computer	Students		Staff		Total respondents	
	No.	%	No.	%	No.	%
Yes	306	81.5	138	92	432	82.3
No	69	18.5	12	8	93	17.7
Total	375	100	150	100	525	100

Table 3. Educational Level of first use of computer

Educational Level	Student		Staff		Total respondents	
	No.	%	No.	%	No.	%
Basic	98	26.2	0	0	127	24.2
SHS	237	63.1	0	0	306	58.3
Tertiary	40	10.8	0	0	52	9.9
Undergraduate	0	0	68	45.3	18	3.5
Graduate	0	0	64	42.7	17	3.2
New staff member	0	0	6	4	2	0.3
Experienced staff member	0	0	12	8	3	0.6
Total	375	100	150	100	525	100

Researcher's data, 2018.

Table 4. Student View on the utilization of ICT on and off campus

Items	N	Min.	Max	Mean	Std. Dev.	T Value	Remarks
Projectors for learning	375	1	4	3.58	0.71	131.66	Often used
Use of computers for academic work on campus	375	2	4	3.38	0.71	124.57	Often used
Computer Lab	375	1	4	3.32	0.88	113.93	Often used
Broadband for internet	375	1	4	3.21	0.87	111.73	Often used
Use computers for academic work at home	375	1	4	2.98	0.79	114.31	Often used
Wi-Fi network for internet	375	1	4	2.71	1.01	110.95	often used
Learning management systems(LMS) or Virtual Learning Environment (VLE) or e-portfolio system	375	1	4	2.38	0.71	11.37	Seldom used
Internet connected lecture hall	375	1	3	2.01	0.66	121.42	Seldom used
Video and Tape recorders	375	1	3	1.46	0.70	112.73	Seldom used
Educational Television	375	1	2	1.38	0.49	115.81	Not used

A view at Table 4 shows that majority of the students responded that projectors are often used for learning in their various colleges with a mean value of 3.58 and a standard deviation of 0.71. Several of the students responded that computers are often used for academic work on campus with a mean value of 3.38 and a standard deviation of 0.71. As well most of the students responded that their computer laboratories are often used having a mean value of 3.32 and a standard deviation of 0.88. According to the majority of the students, broadband is often used in their respective colleges for accessing the internet having an arithmetic mean of 3.21 and a standard deviation of 0.87. Most of the students responded that they often use the computer for academic work at home with a mean value of 2.98 and a standard deviation of 0.79. Most of the students responded that they often used the Wi-Fi network with a mean value of 2.71 and a standard deviation of 1.01.

The majority of the students responded that learning management systems (LMS) or Virtual Learning Environment (VLE) or e-portfolio system are seldom used with a mean value of 2.38 and a standard deviation of 0.71. Per the highest proportion of the students responded that Internet-connected lecture hall is seldom used with a mean value of 2.01 and a standard deviation of 0.66. Video and Tape recorders were also seldom used by the colleges according to the mainstream of the students with a mean value of 1.46 and a standard deviation of 0.70. The majority of the students deem it that educational television was not used in their colleges having a mean value of 1.38 and a standard deviation of 0.49. This implied that the projectors, computers, computer laboratory, broadband, and Wi-Fi network were frequently used for academic work off and on campus while these facilities were seldom employed in daily activities LMS, internet connected lecture hall, video and tape recorders, and educational television.

Table 5 demonstrates that dominant part of the staff responded that they often use computers for academic work on grounds with a mean value of 3.64 and a standard deviation of 0.56. Several of the staff responded that the Wi-Fi network in the colleges is often used with a mean value of 3.55 and a standard deviation of 0.64. To a large portion of the staff responded that they often use their computer for academic work at home having a mean value of 3.49 and a standard deviation of 0.64. As indicated by most of the staff, broadband is often used in their respective colleges for accessing the internet with this item having an arithmetic mean of 3.49 and a standard deviation of 0.64. The vast majority of the staff responded that they often use projectors for teaching with a mean

value of 3.45 and a standard deviation of 0.64. Computer laboratories were likewise often used as per the majority of staff with 2.96 as mean value and 0.53 as the standard deviation.

Per the highest extent of the staff responded that Internet-connected lecture lobby is seldom used with a mean value of 2.35 and a standard deviation of 0.67. Most of the students responded that learning management systems (LMS) or Virtual Learning Environment (VLE) or e-portfolio system are seldom used with a mean value of 2.04 and a standard deviation of 0.62. Most of the staff deem it that educational television was likewise seldom used in the colleges having a mean value of 1.89 and a standard deviation of 0.68. Video and Tape recorders were additionally seldom used by the colleges as indicated by the mainstream of the staff with a mean value of 1.79 and a standard deviation of 0.62.

This implied the projectors, computers, Wi-Fi network, computer research centre, and broadband were frequently used now and again grounds while these facilities were seldom employed in the everyday activities internet connected lecture corridor, LMS, video and tape recorders, and educational television.

Moreover, it was additionally evident from the interview conducted that most teachers started their lessons by explaining the concepts in their different subjects using the customary instructional methodology. Since the greater part of the classrooms was not equipped with ICT instruments, they later took the students to the school multi-media-centre to demonstrate to them the concept using ICT apparatuses. While some of the teachers made use of the devices provided by the school (by taking the students to the school multi-media centre), others use their personal initiative to incorporate the ICT instruments in their classrooms. This was visible from one teacher's response:

"For example, in my class, for the most part, before I bring them here at the school multi-media centre, I teach them, in theory, the different concepts in the subject area, then later bring them here so they can see for themselves the concepts I showed utilizing the displayed image on the computer". (T3)

Another teacher who was utilizing his personal initiative in consolidating ICT in his classroom explains that;

"As should be obvious in my pack is my workstation. I have a lot of videos on research centre experiments that I use in teaching my subject. I begin by explaining the concept to the students since they can't visualize the process then I play videos on my PC". (T4)

**Table 5. Staff View on the utilization of ICT on and off campus**

	N	Min.	Max	Mean	Std. Dev.	T value	Remark
Use computers for academic work on campus	150	2	4	3.64	0.56	56.20	Often used
Wi-Fi network for internet	150	2	4	3.55	0.64	47.77	Often used
Use computers for academic work at home	150	2	4	3.49	0.64	46.93	Often used
Broadband for internet	150	2	4	3.49	0.64	46.93	Often used
Projectors for teaching	150	2	4	3.45	0.64	46.52	Often used
Computer Lab	150	2	4	2.96	0.53	48.26	Often used
Internet connected lecture hall	150	2	4	2.35	0.67	43.41	Seldom used
Learning management systems(LMS) or Virtual Learning Environment (VLE) or e-portfolio system	150	1	3	2.04	0.62	28.28	Seldom used
Educational Television	150	1	3	1.84	0.68	23.48	Seldom used
Video and Tape recorders	150	1	3	1.79	0.62	24.89	Seldom used

A significant number of teachers who actively use ICT made mention of projectors, one of the teachers explains that:

"Sometimes I prepare my lessons utilizing PowerPoint, placing it into slides and present to my students utilizing overhead projectors". (T12)

Another subject teacher commented:

"Fundamentally after doing the standard customary instructional teaching in the classroom, I take my PC to the ICT labs, utilizing the projector to project images, I remain behind the class enabling the students to watch video lesson for quite a while then, and I pause now and again to explain". (T10)

The teachers elaborated that considering the context and student-teacher proportion in the school, projectors serve as a device that can be easily used to help numerous students at a time. This was clearly explained by one of the teachers as pursues:

"The devices are limited around our schools so we use what is available we have a projector, so to project the images with the goal that it can reach a large audience just like the case here". (T11)

One of the teachers talked about a new strategy he just devised considering the large class size where the teacher combines quick and ease back learners to cooperate collaboratively. He stated:

"As a rule in my class, the technique I use for this tremendous class number is that I match three or sometimes four students to work per computer. I permit the students who have mastery in controlling the computer to sit directly on the computer while others (moderate learners) watch what they do and pursue the lessons" (T10)

Teacher (10) likewise explains how he makes use of his personal workstation in the classroom;

"I use my workstation phone the classroom, as I have software and scientific videos which I demonstrate to the students when teaching. I have programs in my portable computers like a virtual lab and 4 stroke engine movements".

Other teachers admitted utilizing their phones and Ipads to demonstrate real-life images to their students and as a reference source when they are teaching their lessons;

"As should be obvious I have an Apple Ipad here with me, when I get to points like collapsing and blaming, or volcanicity I have a real images on my tablet that I use in demonstrating them in the classroom, I attempt as much as I can to improvise and coordinate my teaching with reality".(T20)

Another teacher stated:

"When I'm teaching, I keep my Tablet besides me to verify what I'm teaching and to check from other sources online". (T5)

A teacher further reiterated that:

"I use my phone as well. Sometimes I might be in a class and a student makes a challenging inquiry or in cases where I need to relate what am teaching to real life circumstance, I may simply use my phone to browse through materials related to the lesson I am teaching". (T9)

Furthermore, from the analysis, the other set of teachers admitted not utilizing the apparatuses directly in the teaching and learning process yet in an indirect way that ensures effective teaching. They acknowledged that

pedagogic use of ICT may not exclusively be the direct use of the instruments in the classroom yet in addition indirect uses of the apparatuses (passive usage) that facilitate the teaching and learning process. Additionally, the majority of the teachers confirmed having personal computers yet when they were asked what use they make of it, different responses came up. The larger part of them responded that they use their computers for research purposes, communication with colleagues and students, to prepare their lessons, and social purposes. Some commented;

"Whenever am at home, there are advanced mathematics related PDF articles that I more often than not search through the internet and save on my computer. I as a rule experience these items at home to help me improve my mathematical knowledge. So in the greater part of the cases, I use my computer back at home to study. I likewise use it to prepare evaluation exams". (T2)

Another teacher said;

"So fundamentally I use the ICT facilities only for research purposes to compliment my lesson notes. In case I found new materials, I endeavour to add to my lesson notes so the student and I are abreast with the information that is evolving". (T8)

To continue, it was evident that one of the teachers was actively making use of some mobile applications as a collaborative apparatus with his student as he explains:

"I use recent mobile applications like Viber and Whats App to communicate with the students giving them academic directives in my subject area". (T9)

An extra question was asked why this teacher was utilizing these mobile applications as a pedagogic instrument considering from the observation that students were not permitted to use mobile devices in class and he responded:

"ICT in the teaching and learning process is an essential issue that must be taken seriously because we have gone past the age where teaching must be done in a classroom, or under a tree. We are present during a time where technology rules, so at any rate, we should attempt however much as could be expected in our Ghanaian educational colleges to incorporate ICT in the teaching and learning process." (T9)

Likewise, some teachers assigned students to discover information over the internet in their subject area and one teacher described how he teaches his student to discover great academic materials online, saying:

"I give them tips to do research on the internet, for example, when I am teaching subject like seismology (study of earthquakes), I generally assigned them after the class that when they return home, when they are perusing the internet, they can type on the URL google.com, from where they can type Seismology in the Google search box".(T7)

From a general perspective, the pedagogic use of ICT in the colleges can be considered as moderate. The development of teachers were passive users and just a few teachers created innovative classroom practice with ICT in which they gave the students active role in taking an interest in their learning. In as much the same number of the teachers considered the device indispensable in the teaching and learning process, it seems the interest in incorporate ICT in pedagogy is still in a surface stage in these colleges.

To buttress the utilization of ICT facilities in the Colleges of Education by students and staff, the proficiency of students and staff in the use of ICT was assessed. In so doing a descriptive analysis was used to measure the statistical outcome of these variables in [Table 5](#) and [Table 6](#) using mean and standard deviation. A scale ranging for 1-5 (Exceptionally Good (5), Very Good (4), Good (3), Average (2), Not Good (1)) A mean ranging from 4.5-5 meant exceptionally good in use of the ICT facility, 4.4-3.5 meant very good, 3.4-2.5 meant good, 2.4-1.5 meant average and less than 1.5 meant not good.

From [Table 6](#) majority of the students responded that they very good in the use of E-mail for personal communication with a mean value of 3.47 and a standard deviation of 0.80. With respect to proficiency in Microsoft Word for word-processing and learning several of the students responded to be good with a mean value of 3.43 and a standard deviation of 0.96. Most of the students also were good in Web browsing for personal work with a mean value of 3.38 and a standard deviation of 0.77. The mainstream of the students responded to be good in using Microsoft Excel/Access for class work and assignment with a mean value of 3.28 and a standard deviation of 0.97. The highest proportion of the students responded to be good in Storing data with a mean value of 2.9 and a standard deviation of 1.20. The majority of the students responded that they are good in the use Microsoft PowerPoint for presentation in class and seminars with an arithmetic mean of 2.87 and a standard deviation of 0.88. Most of the students also were good in the use of Internet/E-Mail for research and learning with a mean value of 2.86 and standard deviation of 1.07.

Regarding the proficiency in a desktop publication by students, several of them responded to be average in this item with a mean value of 2.15 and a standard deviation of 1.2. Similarly, several of the students responded to be average in the use of software like SPSS, Stata, R for data analysis in class and research work with a mean value of 2.14 and 1.25 as standard deviation. This implied that the students were proficient in the use of E-mail for personal communication, Microsoft Word for word-processing and learning, Web browsing for personal work, using Microsoft Excel/Access for class work and assignment,

Storing data, Microsoft PowerPoint for presentation in class and seminars, and Internet/E-Mail for research and learning. The outcome also indicated that the students were not that proficient in desktop publication, and software like SPSS, Stata, and R for data analysis in class and research work.

A glance from [Table 7](#) majority of the staff responded that they very good in the use of Microsoft Excel/Access for instruction with a mean value of 4.07 and a standard deviation of 0.70. With respect to proficiency in the use of Email for personal communication, several of the staff responded to be Very good with a mean value of 4.03 and a standard deviation of 0.72. Most of the staff also were very good in using Microsoft Word for word-processing and instruction with a mean value of 3.91 and standard deviation of 0.62. The mainstream of the staff responded to be Very good in using Microsoft PowerPoint for presentation in class and seminars with a mean value of 3.91 and standard deviation of 0.84. The highest proportion of the staff responded to be very good at Storing data with a mean value of 3.85 and a standard deviation of 0.77. The majority of the staff responded that they are very good in Web browsing for personal work with an arithmetic mean of 3.83 and a standard deviation of 0.74. Most of the staff responded to be very good in the use of Internet/E-Mail for research and teaching with a mean value of 3.56 and standard deviation of 0.79. Regarding the proficiency in a desktop publication by staff, several of them responded to be average in this item with a mean value of 2.19 and a standard deviation of 0.83. Similarly, several of the staff responded to be average in the use of software like SPSS, Stata, R for data analysis in class and research work with a mean value of 2.08 and 0.62 as standard deviation. This implied that the staff were proficient in the use of E-mail for personal communication, Microsoft Word for word-processing and learning, Web browsing for personal work, using Microsoft Excel/Access for class work and assignment, Storing data, Microsoft PowerPoint for presentation in class and seminars, Internet/E-Mail for research and learning and not that proficient in desktop publication, and software like SPSS, Stata, R for data analysis in class and research work.

**Table 6. Proficiency of students in ICT/Computer –based technology**

	N	Min.	Max.	Mean	Std. Dev.	T value	Remarks
E-mail for personal communication	375	2	5	3.47	0.80	131.43	Very Good
Microsoft Word for word-processing and instruction	375	1	5	3.43	0.96	107.79	Good
Web browsing for personal work.	375	2	5	3.38	0.77	132.79	Good
Microsoft Excel/Access for class work and assignment	375	1	5	3.28	0.97	102.12	Good
Store of data	375	1	5	2.9	1.20	73.15	Good
Microsoft PowerPoint for presentation in class and seminars	375	1	5	2.87	0.88	98.16	Good
Internet/E-Mail for research and instruction	375	1	5	2.86	1.07	80.45	Good
Desktop publishing	375	1	5	2.15	1.2	54.1	Average
SPSS, Stata, R for data analysis in class and research work.	375	1	5	2.14	1.25	51.54	Average

**Table 7. Proficiency of staff in ICT/Computer –based technology**

	N	Min	Max	Mean	Std. Dev.	T value	Remarks
Microsoft Excel/Access for class work and assignment	150	3	5	4.07	0.70	50.03	Very Good
Email for personal communication	150	3	5	4.03	0.72	48.70	Very Good
Microsoft Word for word-processing and instruction	150	3	5	3.91	0.62	54.66	Very Good
Microsoft PowerPoint for presentation in class and seminars	150	2	5	3.91	0.84	40.23	Very Good
Store of data	150	2	5	3.85	0.77	43.58	Very Good
Web browsing for personal work.	150	2	5	3.83	0.74	44.66	Very Good
Internet/E-Mail for research and instruction	150	2	5	3.56	0.79	38.90	Very Good
Desktop publishing	150	1	4	2.19	0.83	33.12	Average
SPSS, Stata, R for data analysis in class and research work.	150	2	4	2.08	0.62	40.67	Average

## 7. Discussion

The outcome from Table 3 and Table 4 demonstrates that projectors, computers, computer lab, broadband, and Wi-Fi network were frequently used for academic work now and again grounds while these facilities were seldom employed in day by day activities LMS, internet connected lecture lobby, video and tape recorders, and educational television.

Teaming up this view, Ebeniza, and Chukwudi, [10] keep up that students often times work with their computers and handsets and where possible browse the Internet with it. This guides students to get information on their studies online, thereby increasing their access to knowledge and information gathering over the globe. To buttress the usage abilities the respondents' proficiency in the use of certain ICT tools were also accessed. It was evident from Table 5 and Table 6 that the students and staff members were proficient in the use of E-mail for personal communication, Microsoft Word for word-processing and learning, Web perusing for personal work, utilizing Microsoft Excel/Access for class work and assignment, Storing data, Microsoft PowerPoint for presentation in class and seminars, and Internet/E-Mail for research and learning. The outcome likewise indicated that the students and staff members were not so proficient in desktop distribution, and software like SPSS, Stata, and R for data analysis in class and research work. This finding affirms a study by Jonas, Abukari, and Samari, [11], who reported that overwhelmingly, teachers and pre-service teachers who reported utilizing computers for their very own use were at any rate moderately proficient with computers, have shifting levels of access to computers in schools and individual classrooms, and were interested in learning more about technology for educational purposes. However, a finding by Almeida, Jameson, Riesen, and McDonnell, [12] showed that teachers don't require proficiency in a large variety of technology application, for successful integration of ICT in teaching and learning but instead they need to feel comfortable and confident in instructional methods of ICT integration.

## 8. Conclusion

Students and staff in the Colleges of Education often made use of projectors, computers, computer laboratory, broadband, and Wi-Fi network for academic work on and off campus. Again students and staff members were proficient in basic computer skills such as E-mail for personal communication, Microsoft Word for word-processing and learning, Web browsing for personal work, using Microsoft Excel/Access for class work and assignment, Storing data, Microsoft PowerPoint for presentation in class and seminars, and Internet/E-Mail for research and learning, and lacked sufficient knowledge in applications like SPSS and desktop publication. The acquisition of a personal computer does not guarantee one's usage because although the majority of the respondents had personal computers most of them hardly or do not use

them at all. Furthermore, if students could take their computer lessons seriously from the SHS level, their proficiency could be increased thereafter.

## 9. Recommendation

An arrangement must be made on the teaching-time table of the colleges to make adequate time for both students and staff members to have computer practice. This will improve their proficiency hence increasing their rate of use of ICT facilities.

Formal requirements on contracted partnership schools for integrating technology amid student teachers' field placements must be taken into consideration by the different colleges. This will help the student teachers to incorporate what they have learned to increase their confidence in the usage of ICT facilities.

Training ought to be given by the Ministry of Education to the staff of the Colleges of Education specifically on the most proficient method to efficiently integrate ICT in the teaching and learning processes in the Colleges of Education.

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